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Introduction

High speed data transmission has become essential in today's communications environment. Now the same features that make your phone a fast and easy communications tool are available to increase the efficiency of your data communications.

Adding an RS-232 Interface Line Card (RILC) to your terminal enhances your data communications capability by providing Meridian 1's advanced dialing features. Your data calls will be easier and faster to make than ever.

Data calls

Before you make a data call check that:

- The terminal or personal computer is plugged into an outlet.
- The ON-LINE/OFF-LINE switch is in the ON-LINE position.
- There are no other data calls in progress.
- The RILC port configuration is correct. (Check with your System Administrator.)

Data features

With the RILC, you can establish data connections with other terminals, personal computers and host computers. All operations can be performed from your keyboard without tying up your phone.

These special features are designed to simplify data calling procedures and provide better efficiency through data dialing options.

You may not have all the features described here, so check which ones are configured on your system before trying to use them.

What you hear

You won't hear regular telephone sounds such as ringing and dial tone when you make a data call.

When you hear a beep, a data call is coming in to your terminal or personal computer. The beep also indicates when a call has been successfully established.

What you see

All prompts and messages appear on your terminal screen in upper case. No prompts appear while a data call is in progress.

When you see a colon (:) at the end of a prompt, a response from you is required.

Responding to prompts

You can type your responses in either upper or lower case.

When you type in some information, always press RETURN <CR> afterward. This may be the ENTER key on some terminals or carriage return on others.

You can edit input using the BACKSPACE or DELETE key, before you press RETURN <CR>.

If you enter an invalid character (one that's not on the menu) you'll see the prompt:

INVALID COMMAND/ENTRY
REENTER:

Making and answering data calls

Dialing a call

Use your keyboard to dial a data call. Keyboard dialing has two different menus that you can select from. The Help menu lists features you can use to make data calls. The Modify menu allows you to change some feature information.

You don't have to display the Help menu to make a data call. If you know which feature you want to use, you can activate it without displaying the Help menu first.

To display the Help menu:

1 <CR>.

ENTER NUMBER OR H (FOR HELP):

2 Enter H <CR>.

Terminal displays Help menu.

Pressing H when you see the "ENTER NUMBER...." prompt always displays the Help menu.

Clearing garbage

If there is garbage in the Help menu screen, press <CR>, type a period (.) then press <CR> again. The Help menu appears correctly.

To make a data call:

1 Press <CR>.

ENTER NUMBER OR H (FOR HELP):

2 Enter the data number and <CR>.

CALLING _____

If your call connects to the number you dialed, you will see:

CALL CONNECTED. SESSION STARTS

3 When your call is connected, log on normally.

A data number can be up to 24 digits long. A longer number is invalid.

To answer a data call:

Calls are connected automatically when you don't have a data call in progress. When there's an incoming call, you'll hear a beep, and see the prompt:

NNNN (calling number)
INCOMING CALL CONNECTED

You're automatically connected to the incoming call.

If you see the prompt:

NNNN (calling number)
UNDER TEST

The caller is testing to make sure the data path is robust.

You may see the prompt:

INCOMPATIBLE INCOMING CALL
RELEASED

This prompt indicates one of three situations:

- The caller's baud rate is invalid.
- The caller's bit and parity rate are invalid.
- The caller's data module is in synchronous mode.

To end a data call:

- Press the BREAK key three times or hold the BREAK key down for about two seconds.
- Log off the host computer.
- Put the ON-LINE/OFF-LINE switch in the OFF-LINE position.
- Switch off the terminal or computer power.
- Press down the CTRL key and the D key at the same time.

If the host accepts the CONTROL-D command, it will initiate the log off. Otherwise, you'll have to use one of the other methods in a different way.

To release a data call before it is connected, press the CTRL key and the Z key at the same time.

A - AUTO DIAL

S - SPEED CALL

C - CALL

M - MODIFY

D - DISPLAY

SELECT:

Help menu

A - AUTO DIAL NUMBER

R - REMOTE LOOPBACK

S - SPEED NUMBER

Q - QUIT MODIFY

SELECT:

Modify menu

Help menu

You can select the Help menu by typing "H" at the initial prompt:

ENTER NUMBER OR H (FOR HELP):

The Help menu is used to activate features of the RS-232 interface. You can make an Auto Dial or Speed Call, and display information about your current set-up.

Modify menu

The Modify menu, which is selected from the Help menu, is used to change some of the information stored with features. You can create or change an Auto Dial number, and turn on Remote Loopback to test your data connection with another terminal.

Keyboard dialing features

Auto Dial

Auto Dial enables you to dial a number automatically just by pressing a key.

If you try to use Auto Dial when there is no number stored with it, you'll see the message:

SERVICE UNAVAILABLE
RELEASED

To call an Auto Dial number:

- 1 Press <CR>.

ENTER NUMBER OR H (FOR HELP):

- 2 Enter A <CR>.

CALLING _____

Terminal displays Auto Dial number.

If your call connects to the number you dialed, you'll see:

CALL CONNECTED. SESSION STARTS

- 3 When your call is connected, log on normally.

To store an Auto Dial number:

- 1 Press <CR>.

ENTER NUMBER OR H (FOR HELP):

- 2 Enter M <CR>.

Terminal displays Modify menu.

- 3 Enter A <CR>.

AUTO DIAL NO.:

- 4 Enter the new Auto Dial number and <CR>.

Terminal displays Modify menu.

- 5 Enter Q <CR>.

Terminal displays Help menu.

Speed call

Speed Call lets you dial data numbers with one-, two- or three-digit codes. The codes are associated with phone numbers so that instead of dialing a number, you can dial the code.

If your Data Option is defined as a Speed Call controller, you can store or change the speed call numbers from the Modify menu.

If you try to use Speed Call when no numbers are stored for it, you'll see the message:

SERVICE UNAVAILABLE
RELEASED

To make a Speed call:

- 1 Press <CR>.

ENTER NUMBER OR H (FOR HELP):

- 2 Enter S <CR>.

ENTER ACCESS CODE:

- 3 Enter the code for the number you want to call.

CALLING _____

(Terminal displays phone number.)

CALL CONNECTED. SESSION STARTS

- 5 When your call is connected, log on.

To store Speed Call numbers (you must be a Speed Call controller):

- 1 Press <CR>.

ENTER NUMBER OR H (FOR HELP):

- 2 Enter M <CR>.

Terminal displays Modify menu.

- 3 Enter S <CR>.

ENTER ACCESS CODE:

- 4 Type in the Speed Call code and <CR>.

SPEED NUMBER:

- 5 Type in the phone number and <CR>.

Terminal displays Modify Menu.

- 6 Enter Q <CR>.

Ring Again

When you reach a busy number, Ring Again notifies you when the line or trunk is available.

Ring Again can be used for data numbers within your organization that are busy, and for outside calls when the trunk is busy. When you see the prompt telling you that the number is free, the number can be redialed automatically.

When you see the prompt telling you that the line is available, respond quickly. Ring Again cancels out after a certain time period (usually 30 seconds).

If you're on a data call when the line Ring Again is watching becomes available, your current call will not be interrupted.

Ring Again can only watch one line at a time. If you try to reactivate Ring Again while it's already monitoring a line, it watches the second line only.

To use Ring Again:

1 Press <CR>.

ENTER NUMBER OR H (FOR HELP):

2 Enter the data number.

CALLING _____

BUSY, RING AGAIN? (Y/N)

3 Enter Y <CR>

RING AGAIN PLACED

When the line is free, you see:

DATA STATION NOW AVAILABLE.
PLACE CALL? (Y/N)

4 Enter Y <CR>.

The number is redialed automatically.

Display data parameters

Information about your data calls and capabilities can be displayed from the Help menu. Specific data stored with certain features can also be changed using the Modify feature. Type in M from the Help menu to see the Modify menu.

Baud rate and parity are sensed automatically from the setting of your terminal or computer, and can be changed to match other equipment by pressing the CTRL key and the Z key at the same time.

The terminal displays information about its parameters.

To display your data profile:

1 Press <CR>.

ENTER NUMBER OR H (FOR HELP):

2 Enter H <CR>.

The Terminal displays Help menu.

3 Enter D <CR>.

The parameters for your terminal or computer are displayed.

BAUD RATE = NNNN

REMOTE LOOPBACK = Y OR N

AUTO DIAL NO. = XXXX

Terminal displays Help menu.

Remote Loopback

You can verify the integrity of the data transmission path from your terminal to the far end and back again by using Remote Loopback.

When you end the call, Remote Loopback is automatically turned off.

To turn Remote Loopback on:

1 Press <CR>.

ENTER NUMBER OR H (FOR HELP):

2 Enter M <CR>.

Terminal displays Modify menu.

3 Enter R <CR>.

REMOTE LOOPBACK (Y/N):

4 Enter Y <CR>.

Terminal displays Modify menu.

5 Enter Q <CR>.

Terminal displays Help menu.

6 Dial another terminal to test the transmission path. If the characters you type in appear on your screen, the data transmission is OK.

Manual modem pooling

If you don't have a modem at your terminal, you can access one in a pool by dialing a number. Once you're connected to a modem, you can dial a data destination through the modem connection.

There are two types of modems. One is a 'dumb' modem which doesn't have any special dialing capabilities. With a 'smart' modem, you can access special dialing features. Ask your System Administrator which type of modem you can access, and use the appropriate procedure listed here.

A data call attempt is disconnected if you don't finish dialing within 30 seconds or if the remote modem doesn't answer within 120 seconds.

If you dial a wrong or invalid number, you'll see:

SERVICE UNAVAILABLE
RELEASED

If you want to include a pause in dialing, use *. To indicate that you've finished dialing, use #

To make a data call using a dumb modem:

1 Press <CR>.

ENTER NUMBER OR H (FOR HELP):

2 Enter the modem number and
<CR>.

CALLING _____

MODEM RESERVED
ENTER REMOTE NUMBER:

3 Enter the remote number.

CALLING _____

If your call connects to the number you dialed, you'll see:

CALL CONNECTED. SESSION STARTS

4 When your call is connected, log on normally.

If the modem is busy, you can use Ring Again. See page 8.

To make a data call using a smart modem:

- 1 Press <CR>.

ENTER NUMBER OR H (FOR HELP):

- 2 Enter the data number and <CR>.

CALLING _____

If your call connects to the number you dialed, you'll see:

CALL CONNECTED. SESSION STARTS

- 3 Dial the remote call using AT dialing commands. That is, type in ATD or ATDT, dial a number and <CR>.

The remote modem answers, and displays either: RING or CONNECT

When a call connects to the number dialed, you'll see:

CONNECT

- 4 Log on. See the modem's User Guide for more information.

After typing in ATDT, wait to see CONNECT on your screen before typing in anything else. If you don't wait, the call may be cancelled and you'll see: NO CARRIER

Programming with the RS-232 Interface

This section offers basic information for advanced users planning to write programs interfacing the RS-232 Interface Line Card (RILC) to a PC for Automatic Call setup and Log on sequence.

For communications with the RILC, the character format should be 7 data bits with parity or 8 data bits with no parity. One stop bit is required for all baud rates except 110 baud in which case two stop bits are required.

When Call Setup commands are sent to the RILC from a computer at 19,200 or 9,600 baud, the computer must send the command characters one at a time, and should wait for each character to appear on the screen, before sending the next.

If it is difficult to implement such a program on your computer, then a delay of 10 ms before sending each character can be used to achieve similar results.

Troubleshooting

Symptom	Solution
You don't see prompts on the Help menu and there is no response when you press RETURN.	Check that the cable to the wall jack is securely in place. Check that the terminal or PC power is ON. Check that the RILC is installed securely. Check that the terminal or PC is set to ON-LINE. Contact your service representative.
The Help menu appears, but there is no response to your input.	The transmit signal path from the terminal to the RILC may be faulty. Contact your service representative.
The data call is connected, but there is no response to your input.	Use the Modify menu to set Remote Loopback to Y, and call the same computer again. When connected, type in several characters. If those characters appear on your screen, then the problem will be found in the computer, not in the data connection. Call computer maintenance.

Symptom**Solution**

You're trying to make a data call, but some characters appear on your screen as squares or other symbols. (Garbage)

Press RETURN, then type a period (.) then press RETURN again. You'll see a legible prompt.

The menu is incomplete. (Some characters are missing.)

Set your terminal or PC to activate XON/XOFF flow control.